SECTION 1 Identification of the substance/mixture and of the company

1.1 Product identifier

- Product Name: **65% Ethanol**
- Product Part Number: **8073, 8074**

1.2 Relevant identified uses of the substance or mixture and uses advised against

- Use of the substance/preparation: Laboratory chemical
- Use advised against: No information available

1.3 Details of the supplier of the safety data sheet

- Name of Manufacturer: Neogen Corporation
- Address of Manufacturer: 620 Lesher Place
  Lansing, Michigan 48912
  USA
- Telephone: 517/372-9200
- Email: Foodsafety@neogen.com

1.4 Emergency telephone number

- Emergency Telephone: Chemtrec: 1 (800) 424-9300
  Outside USA and Canada: +1 (703) 527-3887

SECTION 2 Hazards identification

2.1 Classification of the substance or mixture

Classification (29 CFR 1910.1200)

- Flammable liquids, Cat. 2, H225, Specific target organ toxicity (single exposure), Cat. 1, H370

Classification (REGULATION (EC) No 1272/2008) [CLP/GHS]

- Flam liq. 2, H225, STOT-SE 1, H370

Classification (WHMIS 2015 HPR)

- Flammable liquids, Cat. 2, H225, Specific target organ toxicity (single exposure), Cat. 1, H370

Additional information: For full text of Hazard-statements see Section 16.

2.2 Label elements


GHS02


GHS08

- Signal Word: Danger
- Symbols: GHS02, GHS08
- Hazard phrases
  Highly flammable liquid and vapor.
  Causes damage to organs.
- Precautionary Phrases
  Keep away from heat, sparks, open flames, hot surfaces, and other ignition sources – No smoking.
  Ground/bond container and receiving equipment.
  Use explosion-proof electrical/ventilating/lighting/equipment.
  Use only non-sparking tools.
  Take precautionary measures against static discharge.
  Wear protective gloves/protective clothing/eye protection/face protection.
  Wash hands thoroughly after handling.
  Do not breathe fume/gas/mist/vapors/spray.
  Do not eat, drink or smoke when using this product.
  IF ON SKIN (or hair): Immediately remove all contaminated clothing. Rinse skin with water/shower.
  If exposed or concerned: Call a poison center or doctor/physician.
  In case of fire: Use water spray or fog, alcohol resistant foam, dry chemical or carbon dioxide to extinguish.
  Keep container locked up and tightly closed in a cool, well-ventilated place.
  Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 2 Hazards identification (continued)

2.3 Other hazards

- May be mildly irritating to skin and eyes.
- May cause dizziness or drowsiness if swallowed.

SECTION 3 Composition/information on ingredients

3.1 Substances

3.2 Mixtures

This product is a mixture of the substances listed below with the addition of non-hazardous materials

Chemical	Concentration	CAS No.	EC Number	H Phrases	Symbols
Ethanol	65%	64-17-5	200-578-6	H225	GHS02
Isopropanol	>1 - <5%	67-63-0	200-661-7	H225, H319, H336	GHS02, GHS07
Methanol	>1 - <5%	67-56-1	200-659-6	H225, H301, H311, H331, H370	GHS02, GHS06, GHS08

SECTION 4 First aid measures

4.1 Description of first aid measures

- General
  In case of doubt, or when symptoms persist, seek medical attention.
- Contact with skin
  If on skin: Immediately remove contaminated clothing. Rinse skin with soap and water/shower.
  If skin irritation or rash occurs: Get medical advice/attention.
  Contaminated clothing should be laundered before reuse.
- Contact with eyes
  If substance has gotten into eyes, rinse with plenty of water for at least 15 minutes.
  Irrigate eyes thoroughly while lifting eyelids.
  Seek medical advice if necessary.
- Ingestion
  Do NOT induce vomiting.
  Rinse mouth with water (do not swallow).
  Never make an unconscious person vomit or drink fluids.
  If medical advice is needed, have product container or label at hand.
- Inhalation
  If breathing is difficult, remove victim to fresh air and keep comfortable for breathing.
  Call a POISON CENTER or doctor/physician if you feel unwell.

4.2 Most important symptoms and effects, both acute and delayed

- Causes dizziness, confusion, headache or stupor.
- Can cause damage to the heart, liver, lungs, and kidneys.
- The ingestion of significant quantities may cause damage to central nervous system.
- May result in feeling of intoxication and can cause visual disturbance.
- Prolonged skin contact will result in defatting of the skin, leading to irritation, and in some cases, dermatitis.
- The most important known symptoms are described in the labeling (see Section 2.2) and/or in Section 11.

4.3 Indication of any immediate medical attention and special treatment needed

- Treat symptomatically.
- Symptoms of poisoning may occur even after several hours; therefore provide medical observation for at least 48 hours after the accident.

SECTION 5 Fire-fighting measures

5.1 Extinguishing media

- In case of fire: use water spray, foam, carbon dioxide or dry agent for extinction.

5.2 Special hazards arising from the substance or mixture

- Highly flammable liquid and vapor.
- Vapors are heavier than air and may travel considerable distances to a source of ignition and flashback.
- In case of fire, do not breathe fumes. Gives off irritating or toxic fumes (or gases) in a fire.

620 Lesher Place • Lansing, MI 48912 • **800/234-5333** (USA /Canada) • 517/372-9200
foodsafety@neogen.com • www.neogen.com

SECTION 5 Fire-fighting measures (continued)

5.3 Advice for firefighters

- Keep container(s) exposed to fire cool, by spraying with water.
- In confined spaces, sewers, etc., the vapors may collect to form explosive mixtures with air.
- Prevent run off water from entering drains if possible.
- Smoke from fires is toxic. Take precautions to protect personnel from exposure.
- Special protective equipment: Wear self-contained breathing apparatus (SCBA). Wear full protective clothing including chemical protection suit.

5.4 Hazardous Combustion Products

- May include carbon oxides.

SECTION 6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- Ensure adequate ventilation.
- Avoid breathing fume/gas/mist/vapors/spray.
- Wear protective clothing as per Section 8
- Wash thoroughly after dealing with spillage.
- Eyewash bottles should be available.
- Take precautionary measures against static discharge.
- Use non-sparking hand tools.

6.2 Environmental Precautions

- Avoid release to the environment.
- If contamination of drainage systems or water courses is unavoidable, immediately inform appropriate authorities.

6.3 Methods and material for containment and cleaning up

- Eliminate all ignition sources if safe to do so.
- Stop leak if safe to do so.
- Small spills
  Wipe up spillage with damp cloth or mop.
  Place in sealable container.
- Large spills
  Absorb spillage in inert material and shovel up.
  Place in sealable container.
  Seal containers and label them.
  Use only non-sparking tools.
  Remove contaminated material to safe location for subsequent disposal.
  Ventilate the area and wash spill site after material pick-up is complete.

6.4 Reference to other sections

- See Section 7 for storage. For disposal, see Section 13.

SECTION 7 Handling and storage

7.1 Precautions for safe handling

- Do not breathe mist/vapors/fumes/spray.
- Vapors are heavier than air and may travel considerable distances to a source of ignition and flashback.
- Avoid contact with skin and eyes.
- Do not eat, drink, smoke, or apply cosmetics when using this product.
- Ensure adequate ventilation.
- Keep away from heat, sparks, open flames, hot surfaces, and other ignition sources.
- Ground/bond container and receiving equipment.
- Use explosion-proof electrical/ventilating/lighting/equipment.
- Use only non-sparking tools.
- Take precautionary measures against static discharge.
- Wear protective gloves/protective clothing/eye protection/face protection.
- Wash hands thoroughly after handling.
- Eyewash bottles should be available.

SECTION 7 Handling and storage (continued)

7.2 Conditions for safe storage, including any incompatibilities

- Store at temperatures not exceeding 30°C/86°F. Keep cool.
- Store in a well-ventilated place. Keep container tightly closed.
- Keep away from oxidizers, heat, flames or ignition sources.
- Protect from sunlight.
- Keep away from food, drink, and animal feed.
- Take precautionary measures against static discharge.
- Ground/bond container and receiving equipment.
- Use explosion-proof ventilating and lighting equipment.
- Keep away from alkali metals.
- Incompatible with strong acids.
- Keep away from alkalis (strong bases).
- Incompatible with reducing agents and halogenated substances.

7.3 Specific end use(s)

- Laboratory chemical

SECTION 8 Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

Component	CAS No.	Value	Control Parameters	Basis
Ethanol	64-17-5	TWA	1000 ppm, 1900 mg/m^3	USA-OSHA Table Z-1 Limits for Air Contaminants - 1910.1000
		TWA	1000 ppm, 1900 mg/m^3	USA-NIOSH Recommended Exposure Limits
		STEL	1000 ppm	USA-ACGIH Threshold Limit Values (TLV)
		WEL	1000 ppm	UK
		WEL	1920 mg/m3	UK
2-Propanol	67-63-0	TWA	400 ppm; 980 mg/m^3	USA-OSHA Table Z-1 Limits for Air Contaminants - 1910.1000
		TWA	400 ppm; 980 mg/m^3	USA-NIOSH Recommended Exposure Limits
		STEL	500 ppm; 1225 mg/m^3	USA-NIOSH Recommended Exposure Limits
		TWA	200 ppm	USA-ACGIH Threshold Limit Values (TLV)
		STEL	400 ppm	USA-ACGIH Threshold Limit Values (TLV)
	Remarks	Central nervous system impairment		
		Upper respiratory tract irritation		
		Eye irritation		
Methanol	67-56-1	TWA	200 ppm, 260 mg/m^3	USA-OSHA Table Z-1 Limits for Air Contaminants - 1910.1000
		TWA	200 ppm, 260 mg/m^3	USA-NIOSH Recommended Exposure Limits
		STEL	250 ppm, 325 mg/m^3 (skin)	USA-NIOSH Recommended Exposure Limits
		TWA	200 ppm (skin)	USA-ACGIH Threshold Limit Values (TLV)
		STEL	250 ppm (skin)	USA-ACGIH Threshold Limit Values (TLV)
		WEL (long term)	200 ppm/266 mg/m^3 (skin)	EU-EH40/2005 Workplace Exposure Limits (WEL)
		WEL (short term)	250 ppm/333 mg/m^3 (skin)	EU-EH40/2005 Workplace Exposure Limits (WEL)

8.2 Exposure controls

- Engineering controls should be provided which maintain airborne concentrations below the relevant guidelines.
- Use explosion-proof ventilating and lighting equipment.
- In case of insufficient ventilation, wear suitable respiratory equipment such as EN371 type AX or NIOSH standard 84A.
- Wear suitable protective clothing, including eye/face protection and gloves (butyl rubber are recommended).
- The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and standard EN 374.

SECTION 8 Exposure controls/personal protection

- The selection of a suitable glove depends on work conditions and whether the product is present on its own or in combination with other substances. Breakthrough time is dependent on the characteristics of the brand of glove used and the supplier should be consulted.
- Glove material: butyl rubber
  Thickness: 0.5 mm
  Breakthrough time: >8 hours
  Reference: Lit.
- Wear safety glasses approved to standards EN 166 or ANSI Z87.
- Eyewash bottles should be available.


Gloves


Safety Glasses


Lab Coat


Respirator


No Flames


No Smoking

SECTION 9 Physical and chemical properties

9.1 Information on basic physical and chemical properties

- Appearance: Aqueous solution, clear, colorless
- Odor: Alcohol-like odor
- pH: No information available
- Melting Point/Range: Approx. -41°C (Lit)
- Boiling Point/Range: Approx. 80°C (Lit)
- Flashpoint: 22°C
- Evaporation Rate: No information available
- Flammability: No information available
- Upper/lower flammability or explosive limits: LEL 3.1 % (in air), UEL 27.7 % (in air) (pure ethanol)
- Vapor Pressure: 128 hPa @ 20°C (Lit)
- Vapor Density: No information available
- Specific Gravity: Approx. 0.9 @ 20°C
- Solubility in water: Soluble
- Partition Coefficient (n-Octanol/Water): No information available
- Autoignition Temperature: 400°C (pure ethanol)
- Viscosity: No information available
- Explosive Properties: No information available
- Oxidizing Properties: No information available

9.2 Other information

- No information available

SECTION 10 Stability and reactivity

10.1 Reactivity

- No hazardous reactions known if used for its intended purpose.

10.2 Chemical stability

- Considered stable under normal conditions.

10.3 Possibility of hazardous reactions

- In use, may form flammable/explosive vapor-air mixture.

10.4 Conditions to avoid

- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.

10.5 Incompatible materials

- Incompatible with strong acids, alkalis (strong bases), and oxidizing substances.
- Incompatible with alkali metals.
- Incompatible with chlorine.
- Contact with reducing agents may form explosive gases.
- Incompatible with peroxides.

10.6 Hazardous Decomposition Products

- Decomposition products may include carbon oxides.

SECTION 11 Toxicological information

11.1 Information on toxicological effects

- No experimental test data available for the mixture
- ATEmix = 10,256 mg/kg (oral)
  LD_{50} (oral, rat) (ethanol) = 7,060 mg/kg
  Based on available data, the classification criteria are not met.
- Contact with skin
  May cause redness and irritation in sensitive individuals.
  Prolonged skin contact may result in defatting of the skin, leading to irritation, and in some cases, dermatitis.
  Based on available data, the classification criteria are not met.
- Contact with eyes
  May cause redness and irritation in sensitive individuals.
  Based on available data, the classification criteria are not met.
- Ingestion
  May cause irritation of the throat and/or nausea in sensitive individuals.
  May cause dizziness, confusion, headache or stupor.
  May result in feeling of intoxication and can cause visual disturbance.
  Can cause damage to the heart, liver, lungs, and kidneys.
  The ingestion of significant quantities may cause damage to central nervous system.
  Based on available data, the classification criteria are not met.
- Inhalation
  May cause irritation in sensitive individuals if fumes are inhaled.
  May cause dizziness, confusion, headache or stupor.
  Based on available data, the classification criteria are not met.
- Carcinogenicity
  Not listed in the National Toxicology Program (NTP) 13th Report on Carcinogens.
  Listed as Group 3, Not classifiable as to its carcinogenicity to humans, in the International Agency for Research on Cancer (IARC) Monographs, Volumes 1-112: Isopropanol (CAS No. 67-63-0).
  Not listed in OSHA standard 1910.1003 Carcinogens.
- Mutagenicity
  No information available
- Teratogenicity
  No information available

SECTION 12 Ecological information

12.1 Toxicity

Ethanol

Toxicity to fish

LC_{50} – Leucidus idus (Golden orfe) – 8.14 mg/L-48h

Toxicity to daphnia and other aquatic invertebrates

EC_{50} – Daphnia magna (Water flea) – 9268 mg/L-48h

EC_{50} – Daphnia magna (water flea) – 10800 mg/L-24h

12.2 Persistence and degradability

- Will degrade

12.3 Bioaccumulation Potential

- Log K_{ow} - 0.3 (pure ethanol)

12.4 Mobility in soil

- No information available

12.5 Results of PBT and vPvB assessment

- Not a PBT according to REACH Annex XIII
- PBT/vPvB assessment not available

12.6 Other Adverse Effects

- To the best of our knowledge, the properties of this material have not been fully evaluated.

SECTION 13 Disposal considerations

13.1 Waste treatment methods

- Disposal should be in accordance with local, regional, national, and/or international regulations.
- Do not discharge into drains or the environment, dispose to an authorized waste collection point.
- Do not reuse empty containers.
- Empty containers may contain flammable vapors. Do not burn.

13.2 Classification (REACH)

- Waste Codes in accordance with the European Waste catalogue (EWC) are origin-defined. Since this product is used in several industries, no Waste Code can be provided by the supplier. The Waste Code should be determined in arrangement with your waste disposal partner or the responsible authority.

SECTION 14 Transport information

Flammable Liquid

14.1 UN Number

1170

14.2 UN Proper Shipping Name

- Ethanol

14.3 Transport hazard class(es)

- 3

14.4 Packing group

- II

14.5 Environmental hazards

- Not classified

14.6 Special precautions for user

- Not classified

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code

- Not classified

14.8 Domestic Surface Transport (US DOT)

- Proper Shipping Name: Ethanol
- DOT UN No.: 1170
- DOT Hazard Class: 3
- DOT Packing Group: II

14.9 International Road/Rail (ADR/RID)

- Proper Shipping Name: Ethanol
- ADR UN No.: 1170
- ADR Hazard Class: 3
- ADR Packing Group: II
- Tunnel Code: 2 (D/E)

14.10 Ocean/Sea (IMO/IMDG)

- Proper Shipping Name: Ethanol
- IMDG UN No.: 1170
- IMDG Hazard Class: 3
- IMDG Packing Group: II

14.11 Air (ICAO/IATA)

- Proper Shipping Name: Ethanol
- ICAO UN No.: 1170
- ICAO Hazard Class: 3
- ICAO Packing Group: II

SECTION 15 Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

- This Safety Data Sheet is provided in compliance with the EC Directive 1907/2006- 453/2010, WHMIS 2015 requirements as specified in the Hazardous Products Act (HPA) and the Hazardous Products Regulations (HPR), and with the OSHA Hazard Communication Standard 29 CFR 1910.1200.
- Regulation (EC) No. 1272/2008 on the classification, labelling and packaging of substances and mixtures (CLP Regulation) applies in Europe.

15.2 United States Regulatory Information

SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313: Methanol (CAS No. 67-56-1)

SARA 311/312

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	Yes
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Toxic Substance Control Act (TSCA)

All components of this material are either listed or exempt from listing on the TSCA Inventory.

California Prop 65

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm: Methanol CAS No. 67-56-1.

State Right-to-Know

Massachusetts
- Ethanol CAS No. 64-17-5
- Isopropanol CAS No. 67-63-0
- Methanol CAS No. 67-56-1

New Jersey
- Ethanol CAS No. 64-17-5
- Isopropanol CAS No. 67-63-0
- Methanol CAS No. 67-56-1

Pennsylvania
- Ethanol CAS No. 64-17-5
- Isopropanol CAS No. 67-63-0
- Methanol CAS No. 67-56-1

15.3 Canadian Regulatory Information

- Inventory Status

Domestic Substances List (DSL)	Listed
Non-Domestic Substances List (NDSL)	Not listed

SECTION 16 Other information

Date of Preparation: May 2016
Revision: Rev. 0
Replaces: New issue

Text not given with phrase codes where they are used elsewhere in this safety data sheet: H225: Highly flammable liquid and vapor. H319: Causes serious eye irritation. H336: May cause drowsiness or dizziness. H370: Causes damage to organs.

This document is believed to be correct, but does not purport to be all inclusive and shall be used only as a guide. Neogen Corporation shall not be held liable for any damage resulting from handling or from contact with the above product. These suggestions should not be confused with state, municipal or insurance requirements, and constitute NO WARRANTY.